

396A ABSTRACTS - Myocardial Ischemia and Infarction

JACC

March 19, 2003

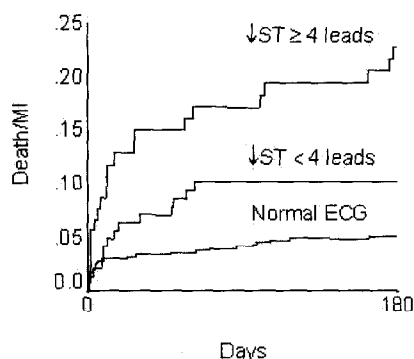
1195-91

The Extent of Ischemic ECG Changes Adds to the Prognostic Value of ST-Segment Depression in Patients With Acute Coronary Syndromes

Jose Gant Lopez, Patricia Giteiman, Maria I. Sosa Liprandi, Florencia Meiller, Simon Salzberg, Andres Ahuad, Adrian Baranchuck, Julio Giorgini, Maria Cecilia Bahit, Oscar Bazzino, on Behalf of the PACS Investigators, Buenos Aires, Argentina

Background. There are few prospective studies on the prognostic value of different ECG presentations. In this multicenter study we hypothesized that other criteria than ST-segment deviation may enhance the prognostic value of the admission ECG. **Methods.** We prospectively included 1520 non-ST elevation acute coronary syndromes (NSTEMI-ACS) patients. Baseline ECG was evaluated by three blinded readers. We grouped the extent (number of leads) and sum of ST-T changes based on the receiver operator curves. The primary endpoint was composite of 180-days death or myocardial infarction (D/MI). **Results:** The 6 months D/MI was 8.5 % in patients with ST segment elevation, and 14.5 % in those with ST segment depression ≥ 0.5 mm ($p=0.001$ versus normal ECG), compared with 5.5 % and 5.1 % in those with isolated T wave inversion or normal findings, respectively. Compared to those with ST segment depression in < 4 leads, patients with depression in ≥ 4 leads showed worse outcome (21.1 % versus 9.3 %, OR 2.52, 95 % CI, 1.23-5.17) (figure). Troponin T (≥ 0.01 ng/ml) was elevated in 75.2 % and 56.8 % ($p=0.002$) in patients with ST depression in ≥ 4 and < 4 leads. Isolated T-wave inversion in > 5 versus ≤ 5 leads was associated to 4 fold increased risk of D/MI (12% versus 3.4%, $p=0.008$). Severity of ST segment elevation showed no significant association with 6-months outcome.

Conclusions. In NSTEMI-ACS patients, a more accurate initial assessment of risk can be made by accounting for the number of ECG leads showing ischemic ST depression or T wave inversion.



1195-92

Prognostic Implications of Different Diagnostic Criteria of Acute Myocardial Infarction: Insights From the Portuguese Registry of Acute Coronary Syndromes

Jorge M. Ferreira, Investigators of the Portuguese Registry of Acute Coronary Syndromes, Hospital de Santa Cruz, Lisbon, Portugal

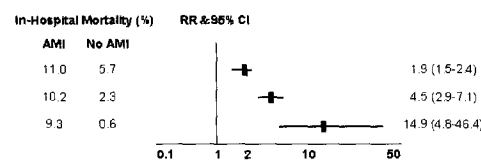
Background: The clinical implications of the different diagnostic criteria of acute myocardial infarction (AMI) are under intense debate. We evaluated the prognostic implications of the new diagnostic criteria of AMI.

Methods: The Portuguese Registry of Acute Coronary Syndromes collected data from 3447 consecutive patients (Pts) since January 2002, in all the 53 Cardiology Departments available in Portugal. We calculated the relative risk (RR) of in-hospital mortality between the presence or absence of AMI using different definitions: 1) Typical symptoms and persistent ST elevation (ST Elev); 2) Typical symptoms/ECG pattern and CK-MB rise $> 2 \times$ ULN (Old Def); 3) Typical symptoms/ECG pattern and elevated troponin level (New Def).

Results: ST Elev was present in 1598 Pts. The Old Def increased the number of AMI by 60% (more 959 Pts; total 2557 Pts). The New Def increased the number of AMI by 16% (more 410 Pts; total 2967 Pts). The incidences of in-hospital mortality for Pts with and without AMI and respective RR were:

Conclusions: In a population with the entire spectrum of acute coronary syndromes, the inclusion of the new biomarker criteria (elevated troponin level) resulted in a small

increase in the diagnosis of AMI. Furthermore, it increased the ability to stratify the risk of in-hospital mortality between the populations with and without AMI.



1195-93

Prodromal Angina Favorably Alters Relationship Between Time to Reperfusion and Outcomes in Patients With a First Anterior Acute Myocardial Infarction

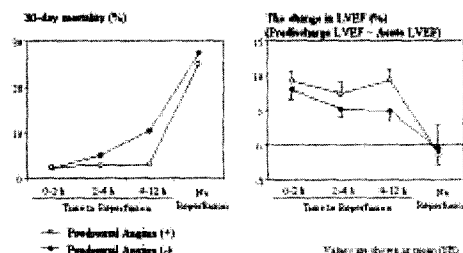
Masaharu Ishihara, Ichiro Inoue, Takuji Kawagoe, Yuji Shimatani, Satoshi Kurisu, Kenji Nishioka, Takashi Umemura, Shuji Nakamura, Masashi Yoshida, Hiroshima City Hospital, Hiroshima, Japan

Background. Prodromal angina improves left ventricular function and survival after acute myocardial infarction (AMI) by the mechanism of ischemic preconditioning. The biological concept of ischemic preconditioning is that it delays myocyte death during ischemia.

Methods. We studied 658 consecutive patients with a first anterior AMI who underwent coronary angiography within 12 hours after the onset of chest pain: 200 patients with early reperfusion (time to reperfusion ≤ 2 hours), 402 patients with late reperfusion (2 to 12 hours), and 56 patients without reperfusion (no reperfusion).

Results. In early reperfusion, 30-day mortality (3% vs 2%, $p=ns$) and the improvement of LVEF ($9 \pm 14\%$ vs $8 \pm 14\%$, $p=ns$) were not significantly different between patients with prodromal angina and patients without. In late reperfusion, prodromal angina was associated with lower 30-day mortality (3% vs 8%, $p<0.05$) and larger improvement of LVEF ($8 \pm 13\%$ vs $5 \pm 13\%$, $p<0.05$). In no reperfusion, 30-day mortality (25% vs 27%, $p=ns$) and the change in LVEF ($-1 \pm 11\%$ vs -1 ± 9 , $p=ns$) were poor regardless of the presence or absence of prodromal angina.

Conclusions. These findings suggested that prodromal angina might favorably alter relation between time to reperfusion and outcomes after AMI. However, prodromal angina did not afford any benefits if reperfusion was not achieved.



1195-94

Gender and Ethnic Differences in Short- and Long-Term Mortality Following Acute Myocardial Infarction

Koon-Hou Mak, Jeremy D. Kark, Kee-Seng Chia, Ling-Ling Sim, Bok-Huay Foong, Suok-Kai Chew, National Heart Centre, Singapore, Singapore, Hadassah Medical Organization and Hebrew University-Hadassah School, Jerusalem, Israel

Background: Data on sex differences in outcome after acute myocardial infarction (MI) in non-Caucasian populations are sparse. We assessed short- and long-term MI case-fatality in a multi-ethnic population of Chinese, Indians and Malays. **Methods and Results:** Data were derived from the Singapore Myocardial Infarction Register which captured all MI events for residents between the ages of 20 to 64 years. Case identification and classification procedures were modified from the MONICA (multinational monitoring of trends and determinants in cardiovascular disease) project. From 1991 to 1999, there were 12,481 MI events, including 2283 women. Female patients were older, less likely to have suffered from a previous Q-wave or anterior wall MI, undergo coronary angiography or revascularization procedures within 28 days and had lower peak creatine phosphokinase levels. Case-fatality was higher among women, with adjusted hazard ratio of 1.64 (95% confidence interval [CI], 1.43 to 1.88) and 1.50 (95% CI, 1.37 to 1.64) for 28-day and mean 3.6-year follow-up periods. There were significant interactions of gender with ethnic group ($p=0.009$), gender with age ($p<0.001$), and gender and age with ethnic group ($p=0.032$). The adjusted hazard for mortality among Chinese, Indians and Malays women were 1.27, 1.69 and 1.82, respectively. The excess mortality in women diminished with age. **Conclusions:** In this multi-ethnic Asian population, early and late case-fatality from MI were substantially higher among women. The sex-discrepancy in long-term mortality was greatest among Malay and Indian patients and in the younger age groups.